

FIG. 1, native human IL-13 (SEQ ID NO. 1)

G P V P P S T A L R E L I E E L V N I T Q N Q K  
A P L C N G S M V W S I N L T A G M Y C A A L E  
S L I N V S G C S A I E K T Q R M L S G F C P H  
K V S A G Q F S S L H V R D T K I E V A Q F V K  
D L L L H L K K L F R E G R F N \*

FIG. 2, native murine IL-13 (SEQ ID NO. 2)

G P V P R S V S L P L T L K E L I E E L S N I T Q  
D Q T P L C N G S M V W S V D L A A G G F C V A  
L D S L T N I S N C N A I Y R T Q R I L H G L C  
N R K A P T T V S S L P D T K I E V A H F I T K  
L L S Y T K Q L F R H G P F \*

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FIG. 3, Alignment of several mammalian IL-13 sequences

	*	20	*	40	*	60	*
HUMAN	:	GPVPP-----	STALRELIEELVNITQ	NQKAPLCNGSMVWSINLTAGM-	YCAALES	LTINVSGCSAIEKTQRM	*
PIG	:	GPVPPH-----	STALKELIEELVNITQ	NQKTPLCNGSMVWSVNLTTSMQYCAALES	LTINISDCSAIQKTQRM		
BOVIN	:	SPVPS-----	ATALKELIEELVNITQ	NQKVPLCNGSMVWSNLTTSSM-	YCAALDSLISNCSVIQRTKKM		
DOG	:	SPVTP-----	SPTLKELEELVNITQ	NQ-ASLCNGSMVWSVNLTAGM-	YCAALES	LTINVSDCSAIIQRTQRM	
MOUSE	:	GPVPRSVSLPLTLKELIEELS	SNITQDQ-TPLCNGSMVWSVDLAAGG-	FCVALD	SLTNISNCNAIYRTQRI		
RAT	:	GPVRRSTSPPVALRELIEELS	SNITQDQKTSLCNSMVWSVDLTAGG-	FCAALES	LTNISSCNAIHRTQRI		
		80	*	100	*		
HUMAN	:	LSGFCPHKVSAGQFSSLHVRD	TKIEVAQFVKDLLHLKLFREG	RFN	SEQ	ID NO.1	
PIG	:	LSALCSHKPPSEQVPGKHIRD	TKIEVAQFVKDLLKHLRMIFRHG	---	SEQ	ID NO.3	
BOVIN	:	LNALCPHKPSAKQVSSEYVRD	TKIEVAQFVKDLLRHSRIVFRNERFN		SEQ	ID NO.4	
DOG	:	LKALCSQKPAAGQISSERSRD	TKIEVIQLVKNLLTYVRGVYRHG	NFR	SEQ	ID NO.5	
MOUSE	:	LHGLCNRKAP-TTVSS--	LPDTKIEVAHFITKLLSYTKQLFRHG	PF-	SEQ	ID NO.2	
RAT	:	LNGLCNQKAS-DVASS--	PPDTKIEVAQFISKLLNYSKQLFRYGH	---	SEQ	ID NO.6	

FIG. 4, IL-13 sequences from non-human primates

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1   S P V P P S T A L K E L I E E L V N I T
1   S P V P R S T A L K E L I E E L V N I T
1   G P V P P Y T A L K E L I E E L V N I T

21  Q N Q K A P L C N G S M V W S I N L T A
21  Q N Q K A P L C N G S M V W S I N L T A
21  Q N Q K A P L C N G S M V W S I N M T A

41  G V Y C A A L E S L I N V S G C S A I E
41  G V Y C A A L E S L I N V S G C S A I E
41  G V Y C A A L E S L I N V S G C S A I E

61  K T Q R M L N G F C P H K V S A G Q F S
61  K T Q R M L N G F C P H K V S A G Q F S
61  K T Q R M L S G F C P H K V S A G Q F S

81  S L R V R D T K I E V A Q F V K D L L V
81  S L R V R D T K I E V A Q F V K D L L V
81  S L L V R D T K I E V A Q F V K D L L R

101 H L K K L F R E G Q F N . cynomolgus IL13 SEQ ID NO.7
101 H L K K L F R E G R F N . rhesus IL13 SEQ ID NO.8
101 H L R K L F H Q G T F N . marmoset IL13 SEQ ID NO.9
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FIG. 5, Immunogen 1 (SEQ ID NO. 10)

```
1  GGGCCCTGTGCCTCCCTCTAGCGCCCTCAAGGAGCTCATTGAGGAGCTGGCCAACATCACC 60
   -----+-----+-----+-----+-----+-----+
   CCGGGACACGGAGGGAGATCGCGGGAGTTCCTCGAGTAACTCCTCGACCGGTTGTAGTGG
   G P V P P S S A L K E L I E E L A N I T

61  CAGAACCAGAAGGCTCCGCTCTGCAATGGCAGCATGGTATGGAGCATCAACCTGACAGCT 120
   -----+-----+-----+-----+-----+
   GTCTTGGTCTTCCGAGGCGAGACGTTACCGTCGTACCATACTCGTAGTTGGACTGTCTGA
   Q N Q K A P L C N G S M V W S I N L T A

121 GGCATGTACTGTGCAGCCCTGGACTCCCTGATCAACGTGTCAGGCTGCAGTGCCATCGAG 180
   -----+-----+-----+-----+-----+
   CCGTACATGACACGTCCGGACCTGAGGGACTAGTTGCACAGTCCGACGTCACGGTAGCTC
   G M Y C A A L D S L I N V S G C S A I E

181 CGGACCCAGAGGATCTTGAGCGCCTTCTGCCCCACAAAGGTCTCAGCTGGGCAGTTTTC 240
   -----+-----+-----+-----+-----+
   GCCTGGGTCTCCTAGAACTCGCGGAAGACGGGCGTGTTCAGAGTCGACCCGTCAAAGG
   R T Q R I L S A F C P H K V S A G Q F S

241 AGCTTGCGTGTCCGAGACACCAAAATCGAGGTGGCCCAGTTTGTAAACGGACCTGCTCGTA 300
   -----+-----+-----+-----+-----+
   TCGAACGCACAGGCTCTGTGGTTTTAGCTCCACCGGGTCAAACATTGCCTGGACGAGCAT
   S L R V R D T K I E V A Q F V T D L L V

301 CATTAAAGAGACTTTTTTCGCCAGGGAACGTTCAAC 336
   -----+-----+-----+-----+
   GTAAATTTCTCTGAAAAAGCGGTCCCTTGCAAGTTG
   H L K R L F R Q G T F N
```

FIG. 6, Immunogen 2 (SEQ ID NO. 11)

G	P	V	P	P	S	T	A	L	R	E	L	I	E	E	L	V	N	I	T
Q	N	Q	K	A	P	L	C	N	G	S	M	V	W	S	I	N	L	T	A
G	M	Y	C	A	A	L	E	S	L	I	N	V	S	G	C	S	A	I	E
K	T	Q	R	M	L	G	G	F	C	P	H	K	F	N	N	F	T	V	S
F	W	L	R	V	P	K	V	S	A	S	H	L	E	D	T	K	I	E	V
A	Q	F	V	K	D	L	L	L	H	L	K	K	L	F	R	E	G	R	F
N																			

FIG. 7, Immunogen 3 (SEQ ID NO. 12)

F	N	N	F	T	V	S	F	W	L	R	V	P	K	V	S	A	S	H	L
E	G	P	V	P	P	S	T	A	L	R	E	L	I	E	E	L	V	N	I
T	Q	N	Q	K	A	P	L	C	N	G	S	M	V	W	S	I	N	L	T
A	G	M	Y	C	A	A	L	E	S	L	I	N	V	S	G	C	S	A	I
E	K	T	Q	R	M	L	G	G	F	C	P	H	K	V	S	A	G	Q	F
S	S	L	H	V	R	D	T	K	I	E	V	A	Q	F	V	K	D	L	L
L	H	L	K	K	L	F	R	E	G	R	F	N							

FIG. 8, Immunogen 4 (SEQ ID NO. 13)

G	P	V	P	R	S	V	S	L	P	L	T	L	K	E	L	I	E	E	L
S	N	I	T	Q	D	Q	T	P	L	C	N	G	S	M	V	W	S	V	D
L	A	A	G	G	F	C	V	A	L	D	S	L	T	N	I	S	N	C	N
A	I	Y	R	T	Q	R	I	L	H	G	L	C	N	R	K	F	N	N	F
T	V	S	F	W	L	R	V	P	K	V	S	A	S	H	L	E	D	T	K
I	E	V	A	H	F	I	T	K	L	L	S	Y	T	K	Q	L	F	R	H
P	F																		G

FIG. 9, Immunogen 5 (SEQ ID NO. 14)

F	N	N	F	T	V	S	F	W	L	R	V	P	K	V	S	A	S	H	L
E	G	P	V	P	R	S	V	S	L	P	L	T	L	K	E	L	I	E	E
L	S	N	I	T	Q	D	Q	T	P	L	C	N	G	S	M	V	W	S	V
D	L	A	A	G	G	F	C	V	A	L	D	S	L	T	N	I	S	N	C
N	A	I	Y	R	T	Q	R	I	L	H	G	L	C	N	R	K	A	P	T
T	V	S	S	L	P	D	T	K	I	E	V	A	H	F	I	T	K	L	L
S	Y	T	K	Q	L	F	R	H	G	P	F								

FIG. 10 Immunogen 6 (SEQ ID NO. 15)

F	N	N	F	T	V	S	F	W	L	R	V	P	K	V	S	A	S	H	L
E	G	P	V	P	R	S	V	S	L	P	V	T	L	K	E	L	I	E	E
L	T	N	I	T	Q	D	Q	T	P	L	C	N	G	S	M	V	W	S	V
D	L	A	A	G	G	F	C	V	A	L	D	S	L	T	N	I	S	N	C
N	A	I	F	R	T	Q	R	I	L	H	A	L	C	N	R	K	A	P	T
T	V	S	S	L	P	D	T	K	I	E	V	A	H	F	I	T	K	L	L
T	Y	T	K	N	L	F	R	R	G	P	F								

FIG 11, Immunogen 7 (SEQ ID NO. 16)

TACGTACATTCCGACGGCTCTTATCCAAAAGACAAGTTTGAGAAAATCAATGGCACTTGG  
-----+-----+-----+-----+-----+  
Y V H S D G S Y P K D K F E K I N G T W  
TACTACTTTGACAGTTCAGGCTATATGCTTGACAGCCGCTGGAGGAAGCACACAGACGGC  
-----+-----+-----+-----+-----+  
Y Y F D S S G Y M L A D R W R K H T D G  
AACTGGTACTGGTTCGACAACCTCAGGCGAAATGGCTACAGGCTGGAAGAAAATCGCTGAT  
-----+-----+-----+-----+-----+  
N W Y W F D N S G E M A T G W K K I A D  
AAGTGGTACTATTTCAACGAAGAAGGTGCCATGAAGACAGGCTGGGTCAAGTACAAGGAC  
-----+-----+-----+-----+-----+  
K W Y Y F N E E G A M K T G W V K Y K D  
ACTTGGTACTACTTAGACGCTAAAGAAGGCGCCATGCAATACATCAAGGCTAACTCTAAG  
-----+-----+-----+-----+-----+  
T W Y Y L D A K E G A M Q Y I K A N S K  
TTCATTGGTATCACTGAAGGCGTCATGGTATCAAATGCCTTTATCCAGTCAGCGGACGGA  
-----+-----+-----+-----+-----+  
F I G I T E G V M V S N A F I Q S A D G  
ACAGGCTGGTACTACCTCAAACCAGACGGAACACTGGCAGACAGGCCAGAAGGCCCTGTG  
-----+-----+-----+-----+-----+  
T G W Y Y L K P D G T L A D R P E G P V  
CCTCCCTCTAGCGCCCTCAAGGAGCTCATTGAGGAGCTGGCCAACATCACCCAGAACCAG  
-----+-----+-----+-----+-----+  
P P S S A L K E L I E E L A N I T Q N Q  
AAGGCTCCGCTCTGCAATGGCAGCATGGTATGGAGCATCAACCTGACAGCTGGCATGTAC  
-----+-----+-----+-----+-----+  
K A P L C N G S M V W S I N L T A G M Y  
TGTGCAGCCCTGGACTCCCTGATCAACGTGTGAGGCTGCAGTGCCATCGAGCGGACCCAG  
-----+-----+-----+-----+-----+  
C A A L D S L I N V S G C S A I E R T Q  
AGGATCTTGAGCGCCTTCTGCCCGCACAAAGTCTCAGCTGGGCAGTTTTCCAGCTTGCGT  
-----+-----+-----+-----+-----+  
R I L S A F C P H K V S A G Q F S S L R  
GTCCGAGACACCAAAATCGAGGTGGCCCAAGTTTGTAAACGGACCTGCTCGTACATTTAAAG  
-----+-----+-----+-----+-----+  
V R D T K I E V A Q F V T D L L V H L K  
AGACTTTTTTCGCCAGGGAACGTTCAAC  
-----+-----+-----+-----+-----+  
R L F R Q G T F N

FIG. 12, Immunogen 8 (SEQ ID NO. 17)

```
TCCTCTCATTCTTCTAACATGGCGAACACCCAGATGAAGTCCGATAAAATCATCATCGCG
-----+-----+-----+-----+-----+
S S H S S N M A N T Q M K S D K I I I A

CACAGGGGAGCTAGCGGGTATCTGCCTGAGCACACCCTGGAGTCCAAGGCTCTGGCGTTC
-----+-----+-----+-----+-----+
H R G A S G Y L P E H T L E S K A L A F

GCCCAGCAGGCTGACTACCTGGAGCAGGACCTGGCGATGACAAAGGATGGCCGCCTCGTG
-----+-----+-----+-----+-----+
A Q Q A D Y L E Q D L A M T K D G R L V

GTGATCCATGACCATTTTCTCGACGGACTGACCGACGTCGCCAAGAAGTTCCCCACCGC
-----+-----+-----+-----+-----+
V I H D H F L D G L T D V A K K F P H R

CATAGGAAGGACGGGAGGTATTACGTGATTGACTTCACCCTCAAGGAGATCCAGAGCCTG
-----+-----+-----+-----+-----+
H R K D G R Y Y V I D F T L K E I Q S L

GAGATGACCGAGAACTTCGAGACCGGCCCTGTGCCTCCCTCTAGCGCCCTCAAGGAGCTC
-----+-----+-----+-----+-----+
E M T E N F E T G P V P P S S A L K E L

ATTGAGGAGCTGCGCAACATCACCCAGAACCAGAAGGCTCCGCTCTGCAATGGCAGCATG
-----+-----+-----+-----+-----+
I E E L A N I T Q N Q K A P L C N G S M

GTATGGAGCATCAACCTGACAGCTGGCATGTACTGTGCAGCCCTGGACTCCCTGATCAAC
-----+-----+-----+-----+-----+
V W S I N L T A G M Y C A A L D S L I N

GTGTCAGGCTGCAGTGCCATCGAGCGGACCCAGAGGATCTTGAGCGCCTTCTGCCCCGAC
-----+-----+-----+-----+-----+
V S G C S A I E R T Q R I L S A F C P H

AAGGTCTCAGCTGGGCAGTTTTCAGCTTGCGTGTCCGAGACACCAAATCGAGGTGGCC
-----+-----+-----+-----+-----+
K V S A G Q F S S L R V R D T K I E V A

CAGTTTGTAAACGGACCTGCTCGTACATTTAAAGAGACTTTTTCGCCAGGGAACGTTCAAC
-----+-----+-----+-----+-----+
Q F V T D L L V H L K R L F R Q G T F N
```

FIG. 13, Immunogen 9 (SEQ ID NO. 18)

```
TTTAATAATTTTACCGTTAGCTTTTGGTTGCGTGTTCTTAAAGTATCTGCTAGTCATTTA
-----+-----+-----+-----+-----+-----+
F N N F T V S F W L R V P K V S A S H L

GAAGGCCCTGTGCCTCCCTCTAGCGCCCTCAAGGAGCTCATTGAGGAGCTGGCCAACATC
-----+-----+-----+-----+-----+-----+
E G P V P P S S A L K E L I E E L A N I

ACCCAGAACCAGAAGGCTCCGCTCTGCAATGGCAGCATGGTATGGAGCATCAACCTGACA
-----+-----+-----+-----+-----+-----+
T Q N Q K A P L C N G S M V W S I N L T

GCTGGCATGTACTGTGCAGCCCTGGACTCCCTGATCAACGTGTCAGGCTGCAGTGCCATC
-----+-----+-----+-----+-----+-----+
A G M Y C A A L D S L I N V S G C S A I

GAGCGGACCCAGAGGATCTTGAGCGCCTTCTGCCCGCACAAAGGTCTCAGCTGGGCAGTTT
-----+-----+-----+-----+-----+-----+
E R T Q R I L S A F C P H K V S A G Q F

TCCAGCTTGCGTGTCCGAGACACCAAAATCGAGGTGGCCCAGTTTGTAAACGGACCTGCTC
-----+-----+-----+-----+-----+-----+
S S L R V R D T K I E V A Q F V T D L L

GTACATTTAAAGAGACTTTTTCGCCAGGGAACGTTCAAC
-----+-----+-----+-----+-----+
V H L K R L F R Q G T F N
```



FIG. 14, Immunogen 10 (SEQ ID NO. 19)

```
TTTAATAATTTTACCGTTAGCTTTTGGTTGCGTGTTCTTAAAGTATCTGCTAGTCATTTA
-----+-----+-----+-----+-----+-----+-----+
F N N F T V S F W L R V P K V S A S H L

GAAGGCCCTGTGCCTCCCTCTAGCGCCCTCAAGATTCTCATTGAGGAGCTGGCCAACATC
-----+-----+-----+-----+-----+-----+-----+
E G P V P P S S A L K I L I E E L A N I

ACCCAGAACCAGAAGGCTCCGCTCTGCAATGGCAGCATGGTATGGAGCATCAACCTGACA
-----+-----+-----+-----+-----+-----+-----+
T Q N Q K A P L C N G S M V W S I N L T

GCTGGCATGTACTGTGCAGCCCTGGACTCCCTGATCAACGTGTCAGGCTGCAGTGCCATC
-----+-----+-----+-----+-----+-----+-----+
A G M Y C A A L D S L I N V S G C S A I

GAGCGGACCCAGAGGATCTTGAGCGCCTTCTGCCCCGACAAAGTCTCAGCTGGGCAGTTT
-----+-----+-----+-----+-----+-----+-----+
E R T Q R I L S A F C P H K V S A G Q F

TCCAGCTTGCGTGTCCGAGACACCAAAATCGAGGTGGCCCAGTTTGTAAACGGACCTGCTC
-----+-----+-----+-----+-----+-----+-----+
S S L R V R D T K I E V A Q F V T D L L

GTACATTTAAAGAGACTTTTTCGCCAGGGAACGTTCAAC
-----+-----+-----+-----+-----+-----+
V H L K R L F R Q G T F N
```

FIG 15, Immunogen 11 (SEQ ID NO. 20)

G P V P P S S A L K E L I E E L A N I T  
Q N Q K A P L C N G S M V W S I N L T A  
G M Y C A A L D S L I N V S G C S A I E  
R T Q R I L S A F C P H K V S A G Q F S  
S L H V R D T K I E V A Q F V T D L L V  
H L K R L F R Q G R F N

FIG. 16, Immunogen 12 (SEQ ID NO. 21)

G P V P P S T A L K E L I E E L V N I T  
Q N Q K A P L C N G S M V W S I N L T A  
G M Y C A A L D S L I N V S G C S A I E  
R T Q R I L S A F C P H K V S A G Q F S  
S L R V R D T K I E V A Q F V T D L L V  
H L K K L F R Q G T F N

FIG. 17, Immunogen 13 (SEQ ID NO. 22)

G P V P P S S A L R E L I E E L A N I T Q N Q K A P L C N G  
S M V W S I N L T A G M Y C A A L E S L I N V S G C S A I D  
K T Q R M L S A F C P H K V S A G Q F S S L H V R D T K I E  
V A Q F V K D L L V H L K R L F R D G R F N

**FIG. 18, pCDNmIL13CDFC (SEQ ID NO. 23)**

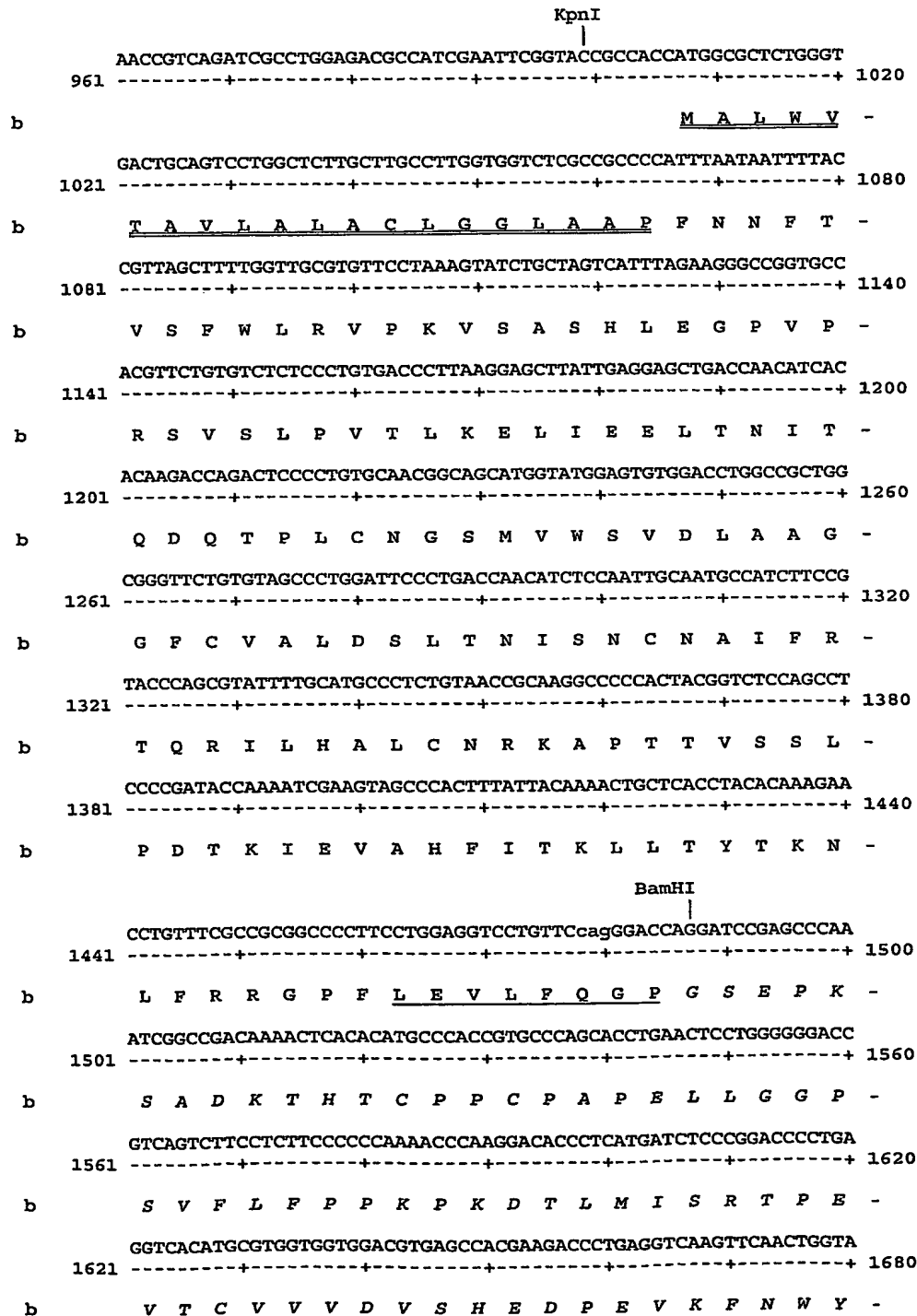
[illegible]

CAAGACAAAGCCGCGGGAGGAGCAGTACAACAGCACGTACCGTGTGGTCAGCGTCCTCAC  
1681 -----+-----+-----+-----+-----+-----+ 1740  
b K T K P R E E Q Y N S T Y R V V S V L T -  
CGTCCTGCACCAGGACTGGCTGAATGGCAAGGAGTACAAGTGCAAGGTCTCCAACAAAGC  
1741 -----+-----+-----+-----+-----+-----+ 1800  
b V L H Q D W L N G K E Y K C K V S N K A -  
CCTCCCAGCCCCATCGAGAAAACCATCTCCAAAGCCAAAGGGCAGCCCCGAGAACCACA  
1801 -----+-----+-----+-----+-----+-----+ 1860  
b L P A P I E K T I S K A K G Q P R E P Q -  
GGTGTACACCCTGCCCCCATCCCGGGAGGAGATGACCAAGAACCAGGTCAGCCTGACCTG  
1861 -----+-----+-----+-----+-----+-----+ 1920  
b V Y T L P P S R E E M T K N Q V S L T C -  
CCTGGTCAAAGGCTTCTATCCCAGCGACATCGCCGTGGAGTGGGAGAGCAATGGGCAGCC  
1921 -----+-----+-----+-----+-----+-----+ 1980  
b L V K G F Y P S D I A V E W E S N G Q P -  
GGAGAACAACCTACAAGACCACGCCTCCCGTGCTGGACTCCGACGGCTCCTTCTCCTCTA  
1981 -----+-----+-----+-----+-----+-----+ 2040  
b E N N Y K T T P P V L D S D G S F F L Y -  
TAGCAAGCTCACCGTGGACAAGAGCAGGTGGCAGCAGGGGAACGTCTTCTCATGCTCCGT  
2041 -----+-----+-----+-----+-----+-----+ 2100  
b S K L T V D K S R W Q Q G N V F S C S V -  
GATGCATGAGGCTCTGCACAACCACTACACGCAGAAGAGCCTCTCCCTGTCTCCGGGTAA  
2101 -----+-----+-----+-----+-----+-----+ 2160  
b M H E A L H N H Y T Q K S L S L S P G K -  
BamHI  
|  
ATGAGTGTAGATCCGTTAACGTTACCAACTACCTAGGGATCCGTTAACGTTACCAACT  
2161 -----+-----+-----+-----+-----+-----+ 2220  
b \*



1681 -----+-----+-----+-----+-----+-----+ 1740  
b V D G V E V H N A K T K P R E E Q Y N S -  
CACGTACCGTGTGGTCAGCGTCCTCACCGTCCTGCACCAGGACTGGCTGAATGGCAAGGA  
1741 -----+-----+-----+-----+-----+-----+ 1800  
b T Y R V V S V L T V L H Q D W L N G K E -  
GTACAAGTGCAAGGTCTCCAACAAAGCCCTCCCAGCCCCATCGAGAAAACCATCTCCAA  
1801 -----+-----+-----+-----+-----+-----+ 1860  
b Y K C K V S N K A L P A P I E K T I S K -  
AGCCAAAGGGCAGCCCCGAGAACCACAGGTGTACACCCTGCCCCATCCCGGGAGGAGAT  
1861 -----+-----+-----+-----+-----+-----+ 1920  
b A K G Q P R E P Q V Y T L P P S R E E M -  
GACCAAGAACCAGGTCAGCCTGACCTGCCTGGTCAAAGGCTTCTATCCAGCGACATCGC  
1921 -----+-----+-----+-----+-----+-----+ 1980  
b T K N Q V S L T C L V K G F Y P S D I A -  
CGTGGAGTGGGAGAGCAATGGGCAGCCGAGAACTACAAGACCACGCCTCCCGTGCT  
1981 -----+-----+-----+-----+-----+-----+ 2040  
b V E W E S N G Q P E N N Y K T T P P V L -  
GGACTCCGACGGCTCCTTCTCCTCTATAGCAAGCTCACCGTGGACAAGAGCAGGTGGCA  
2041 -----+-----+-----+-----+-----+-----+ 2100  
b D S D G S F F L Y S K L T V D K S R W Q -  
GCAGGGGAACGTCCTCTCATGCTCCGTGATGCATGAGGCTCTGCACAACCACTACACGCA  
2101 -----+-----+-----+-----+-----+-----+ 2160  
b Q G N V F S C S V M H E A L H N H Y T Q -  
GAAGAGCCTCTCCCTGTCTCCGGGTAAATGAGTGTAGATCCGTTAACGGTTACCAACTAC  
2161 -----+-----+-----+-----+-----+-----+ 2220  
b K S L S L S P G K \* -

FIG. 20, pCDNcIL13newFC (SEQ ID NO. 26)



CGTGGACGCGTGGAGGTGCATAATGCCAAGACAAAGCCGCGGGAGGAGCAGTACAACAG  
1681 -----+-----+-----+-----+-----+ 1740

b V D G V E V H N A K T K P R E E Q Y N S -  
CACGTACCGTGTGGTCAGCGTCCTCACCCTCCTGCACCAGGACTGGCTGAATGGCAAGGA  
1741 -----+-----+-----+-----+-----+ 1800

b T Y R V V S V L T V L H Q D W L N G K E -  
GTACAAGTGCAAGGTCTCCAACAAAGCCCTCCCAGCCCCATCGAGAAAACCATCTCCAA  
1801 -----+-----+-----+-----+-----+ 1860

b Y K C K V S N K A L P A P I E K T I S K -  
AGCCAAAGGCGAGCCCGAGAACACAGGTGTACACCCTGCCCCCATCCCGGGAGGAGAT  
1861 -----+-----+-----+-----+-----+ 1920

b A K G Q P R E P Q V Y T L P P S R E E M -  
GACCAAGAACCAGGTCAGCCTGACCTGCCTGGTCAAAGGCTTCTATCCCAGCGACATCGC  
1921 -----+-----+-----+-----+-----+ 1980

b T K N Q V S L T C L V K G F Y P S D I A -  
CGTGGAGTGGGAGAGCAATGGGCAGCCGAGAACAACTACAAGACCACGCCTCCCGTGCT  
1981 -----+-----+-----+-----+-----+ 2040

b V E W E S N G Q P E N N Y K T T P P V L -  
GGACTCCGACGGCTCCTTCTCCTCTATAGCAAGCTCACCGTGGACAAGAGCAGGTGGCA  
2041 -----+-----+-----+-----+-----+ 2100

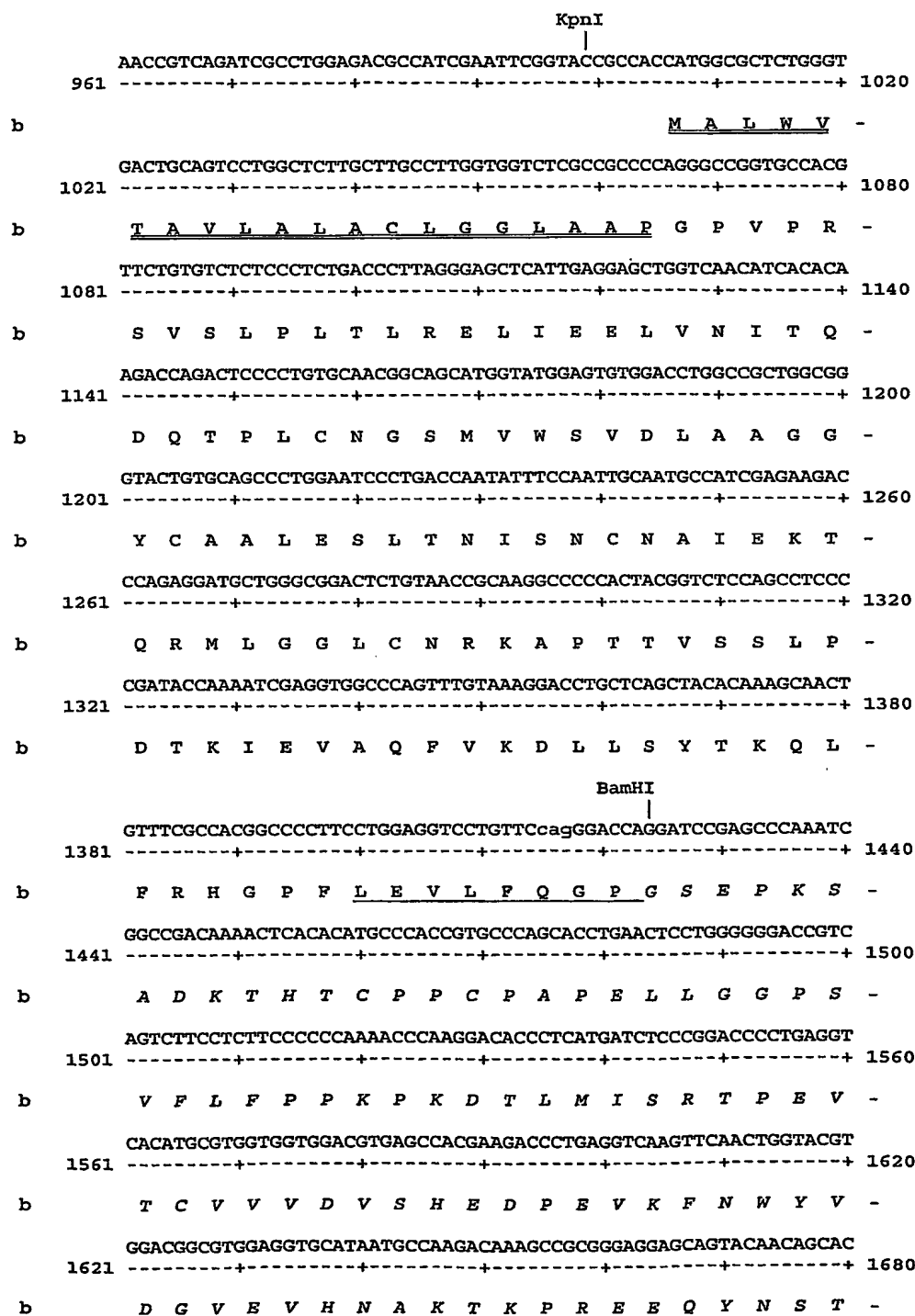
b D S D G S F F L Y S K L T V D K S R W Q -  
GCAGGGGAACGTCTTCTCATGTCCGTGATGCATGAGGCTCTGCACAACCACTACACGCA  
2101 -----+-----+-----+-----+-----+ 2160

b Q G N V F S C S V M H E A L H N H Y T Q -  
GAAGAGCCTCTCCCTGTCTCCGGTAAATGAGTGTAGATCCGTAAACGGTTACCAACTAC  
2161 -----+-----+-----+-----+-----+ 2220

b K S L S L S P G K \*



FIG. 21, pCDNIL13oldFC (SEQ ID NO. 29)



GTACCGTGTGGTCAGCGTCCTCACCCTCCTGCACCAGGACTGGCTGAATGGCAAGGAGTA  
1681 -----+-----+-----+-----+-----+-----+ 1740  
b Y R V V S V L T V L H Q D W L N G K E Y -  
CAAGTGCAAGGTCTCCAACAAAGCCCTCCCAGCCCCCATCGAGAAAACCATCTCCAAGC  
1741 -----+-----+-----+-----+-----+-----+ 1800  
b K C K V S N K A L P A P I E K T I S K A -  
CAAAGGGCAGCCCCGAGAACCAAGGTGTACACCCTGCCCCCATCCCGGAGGAGATGAC  
1801 -----+-----+-----+-----+-----+-----+ 1860  
b K G Q P R E P Q V Y T L P P S R E E M T -  
CAAGAACCAGGTCAGCCTGACCTGCCTGGTCAAAGGCTTCTATCCCAGCGACATCGCCGT  
1861 -----+-----+-----+-----+-----+-----+ 1920  
b K N Q V S L T C L V K G F Y P S D I A V -  
GGAGTGGGAGAGCAATGGGCAGCCGAGAGAACAATAAGACCACGCCTCCCGTGCTGGA  
1921 -----+-----+-----+-----+-----+-----+ 1980  
b E W E S N G Q P E N N Y K T T P P V L D -  
CTCCGACGGCTCCTTCTCCTCTATAGCAAGCTCACCCTGGACAAGAGCAGGTGGCAGCA  
1981 -----+-----+-----+-----+-----+-----+ 2040  
b S D G S F F L Y S K L T V D K S R W Q Q -  
GGGGAACGTCTTCTCATGCTCCGTGATGCATGAGGCTCTGCACAACCACTACACGCAGAA  
2041 -----+-----+-----+-----+-----+-----+ 2100  
b G N V F S C S V M H E A L H N H Y T Q K -  
GAGCCTCTCCCTGTCTCCGGGTAAATGAGTGTAGATCCGTTAACGGTTACCAACTACCTA  
2101 -----+-----+-----+-----+-----+-----+ 2160  
b S L S L S P G K \* -

Figure 22,

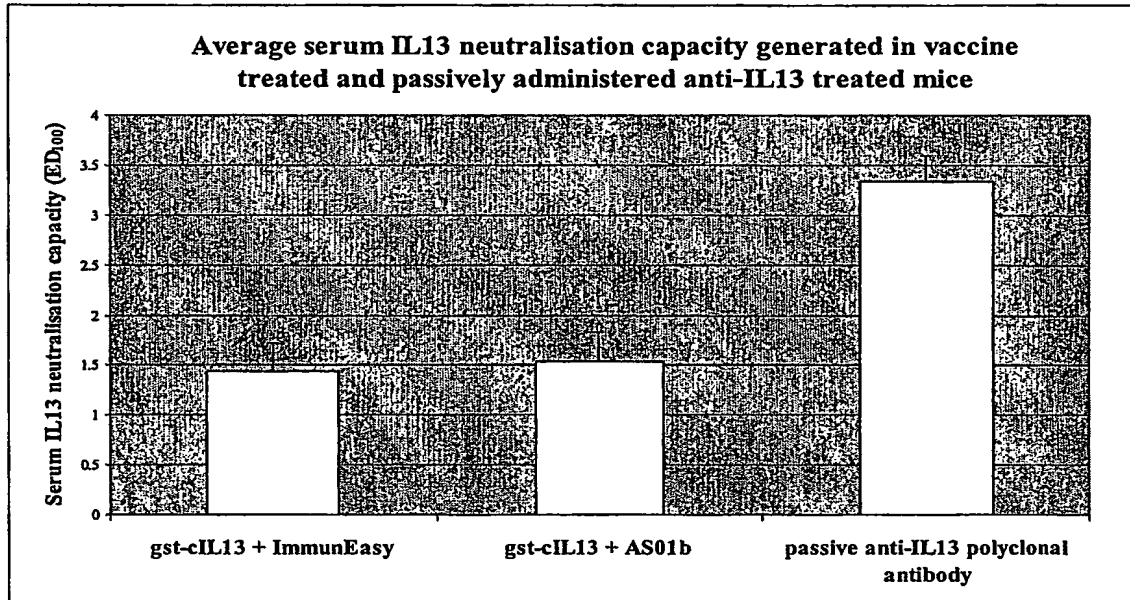
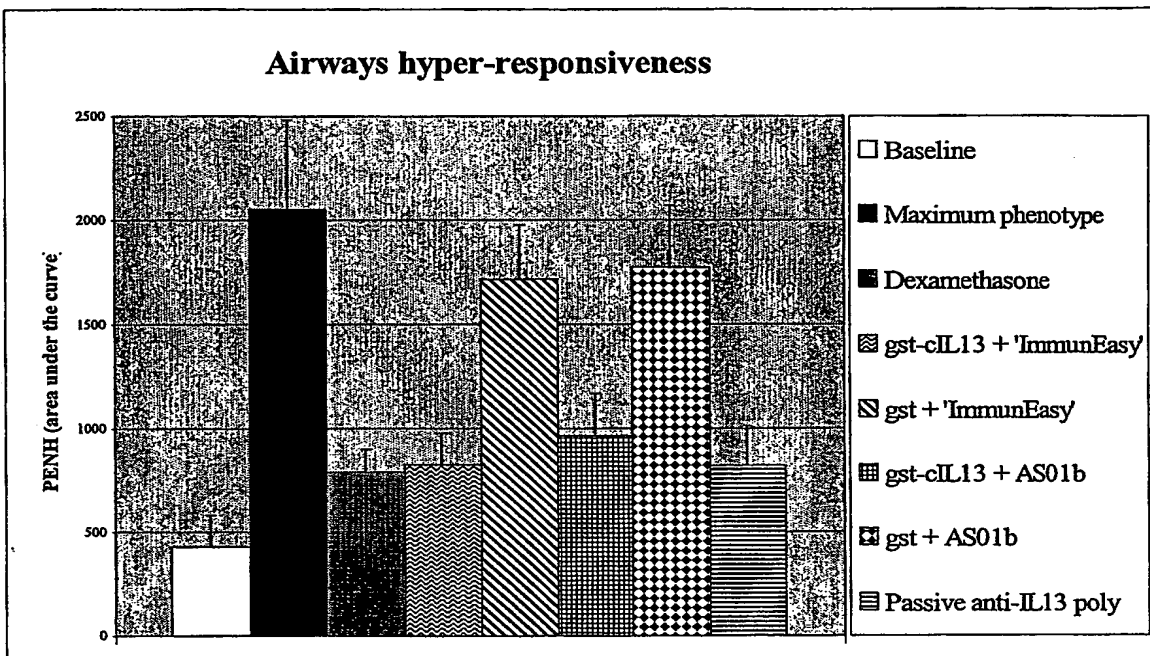


Figure 23,

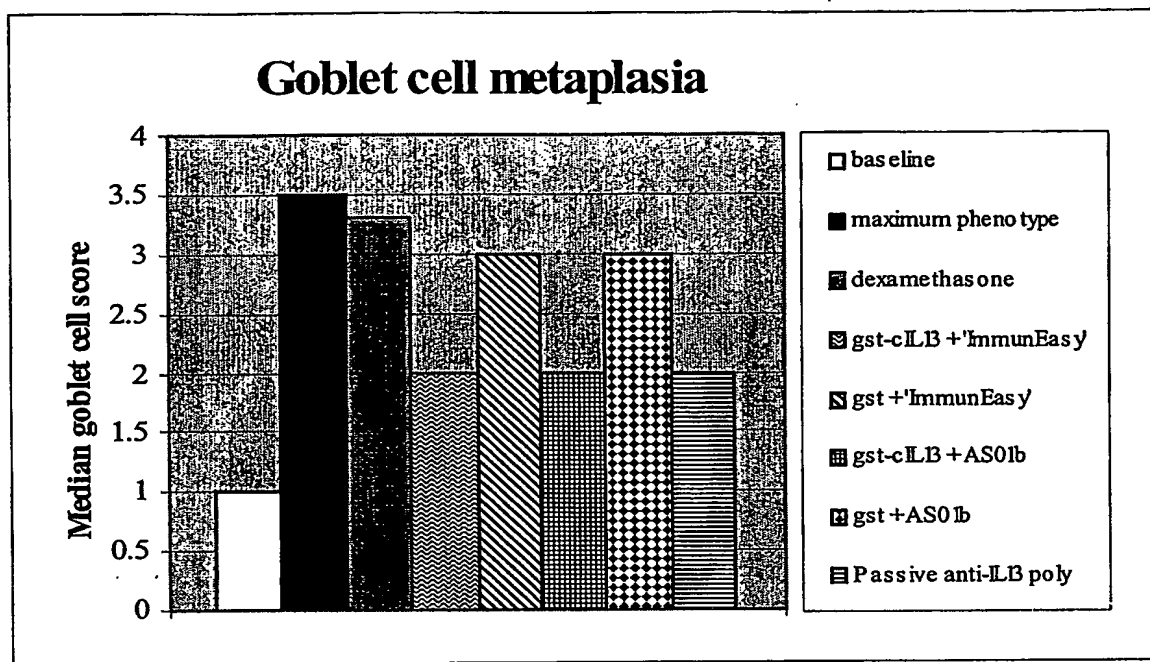


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Figure 25,



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Figure 26A, gst-cIL13 + 'ImmunEasy'

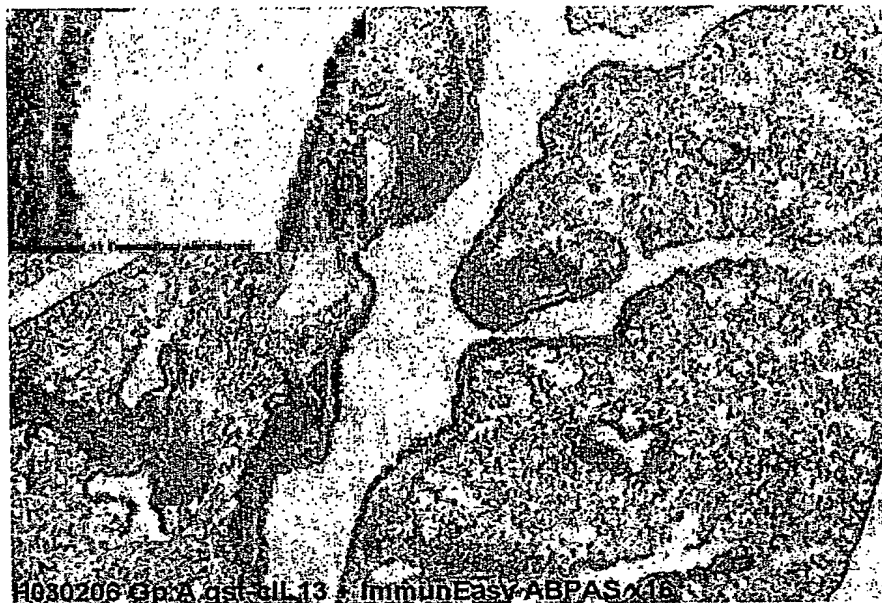


Figure 26B, gst + 'ImmunEasy'



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Figure 27A, gst-cIL13 + liposomes + 3D-MPL + QS21

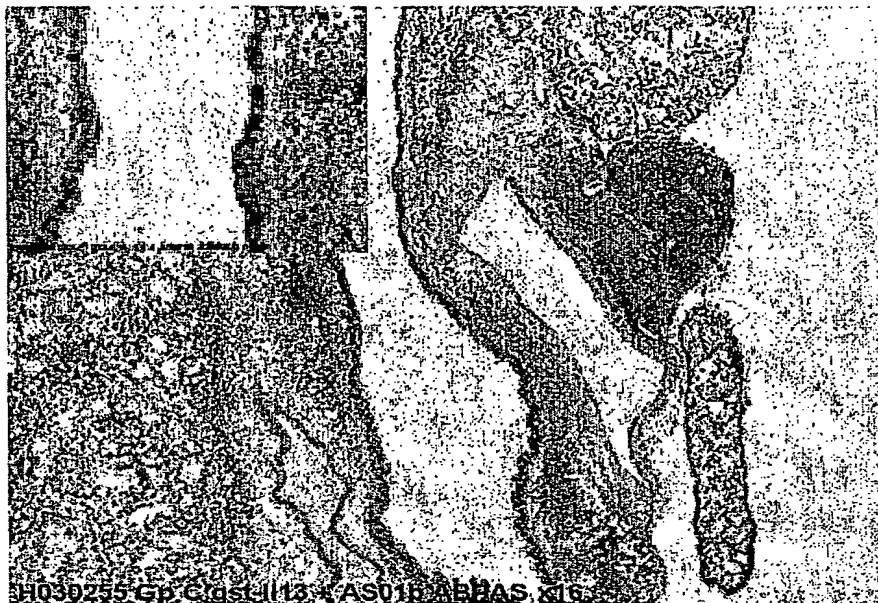


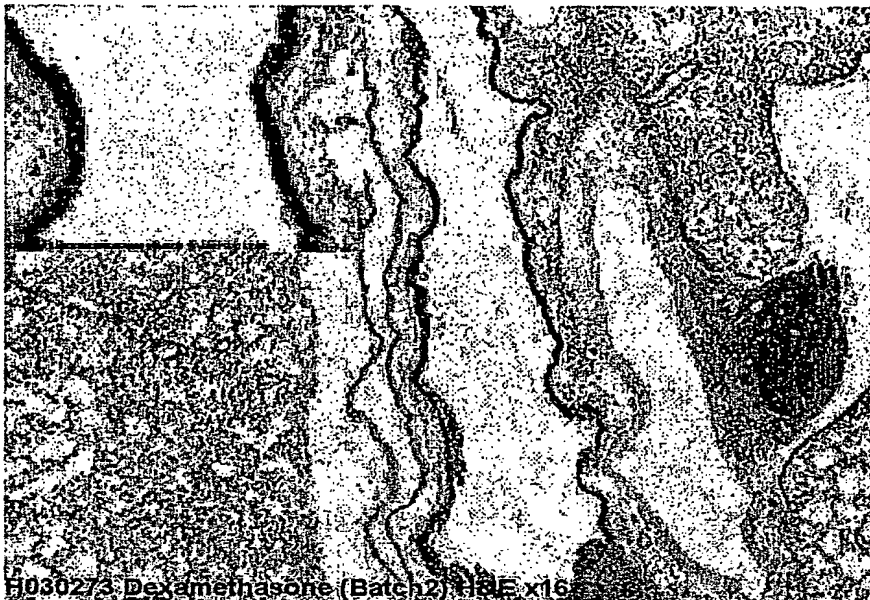
Figure 27B, gst + liposomes + 3D-MPL + QS21





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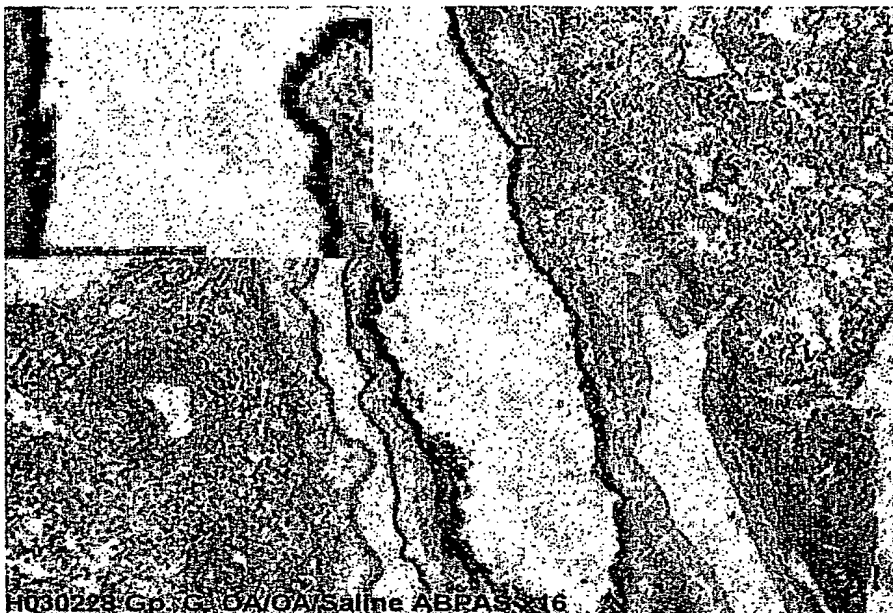
Figure 28, Dexamethasone



H030273 Dexamethasone (Batch 2) H&E x16

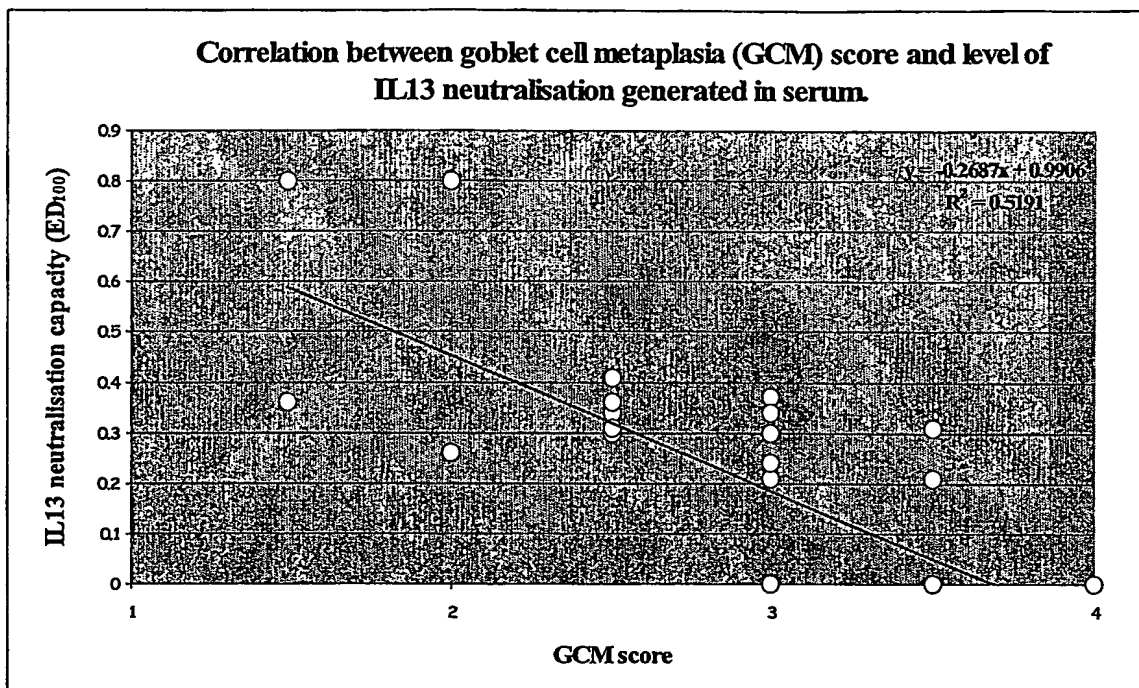
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Figure 29, Maximal asthmatic phenotype



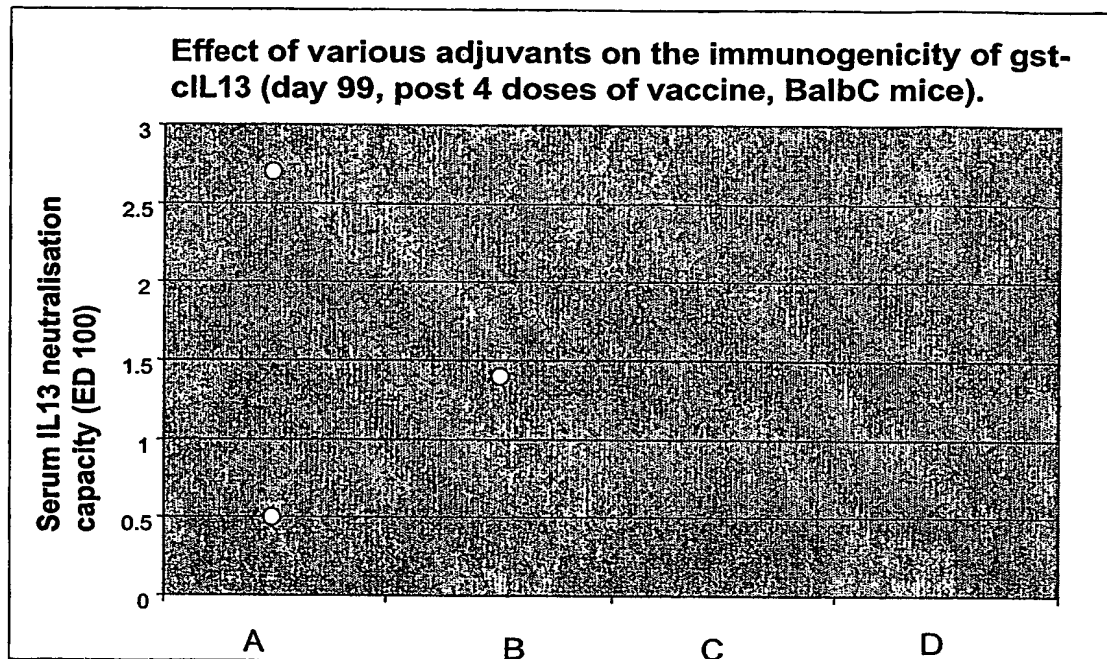
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Figure 30,



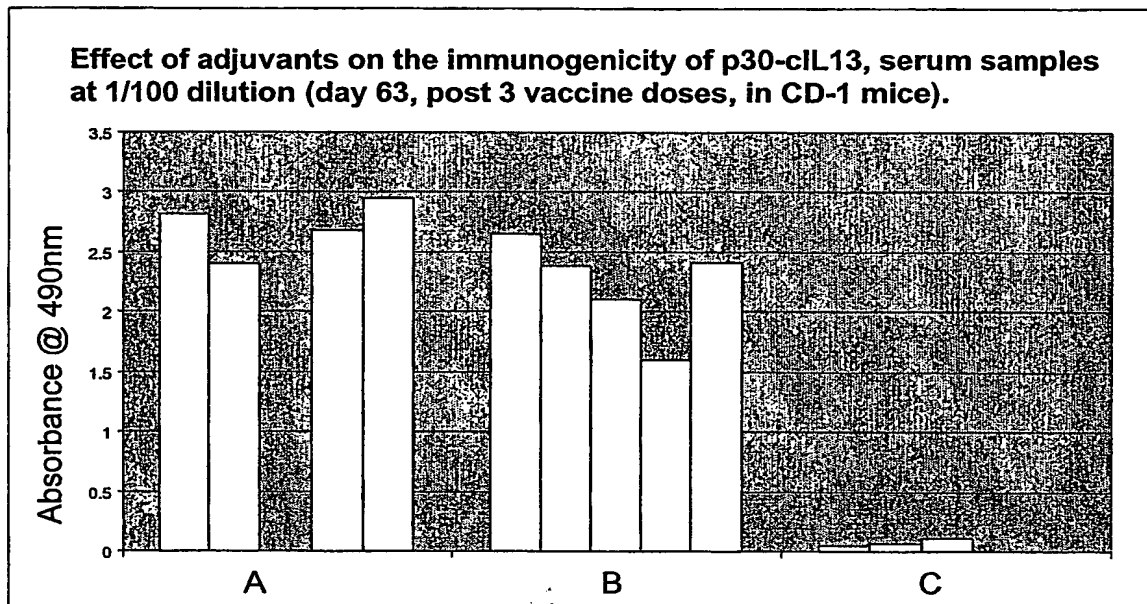
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Figure 31



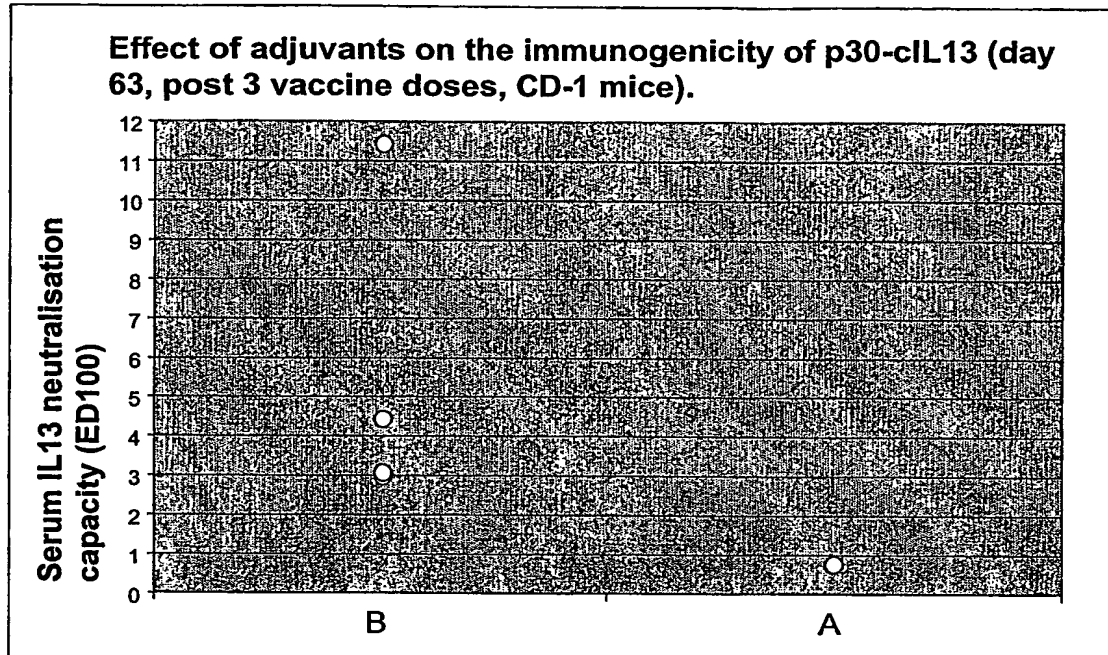
## BEST AVAILABLE COPY

Figure 32,



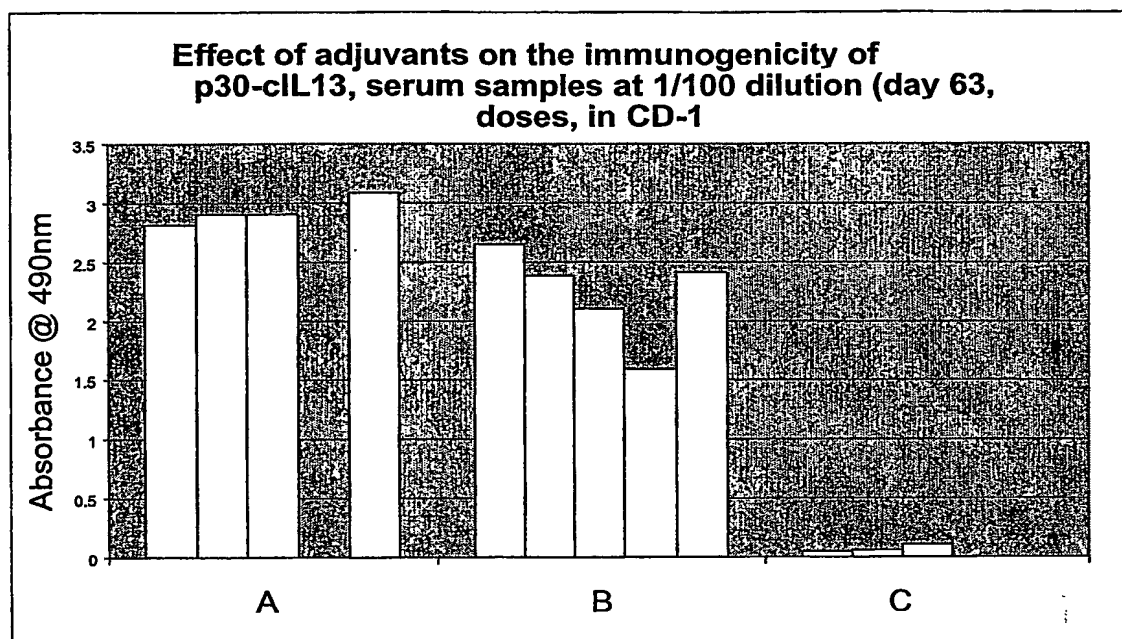
## BEST AVAILABLE COPY

Figure 33,



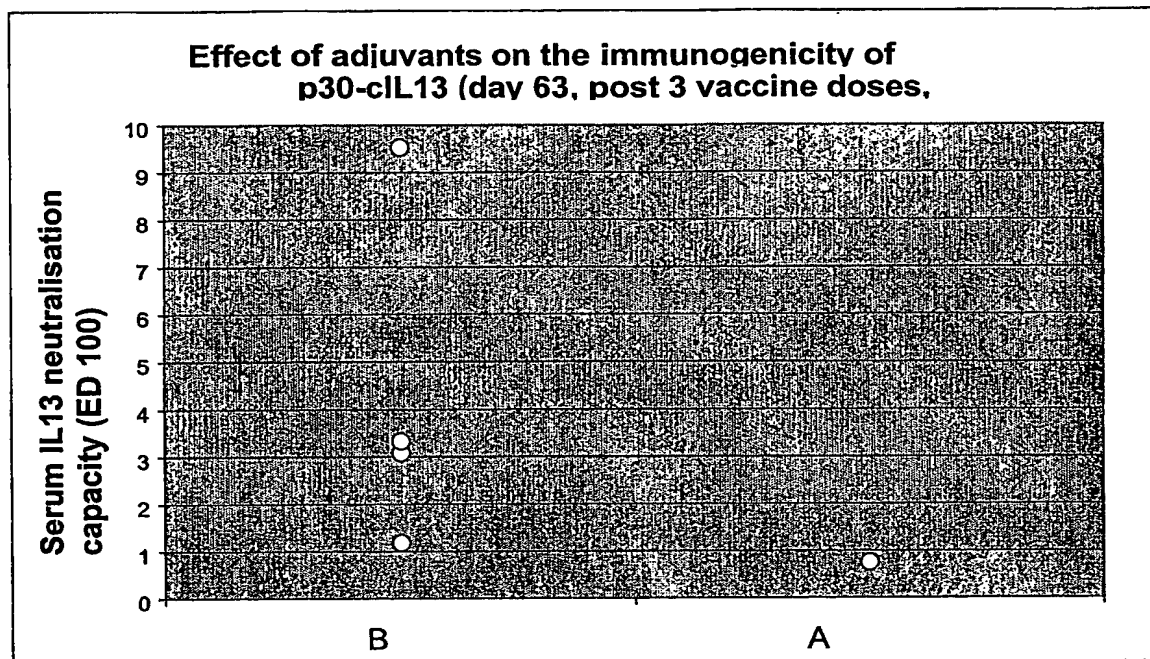
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Figure 34,



## BEST AVAILABLE COPY

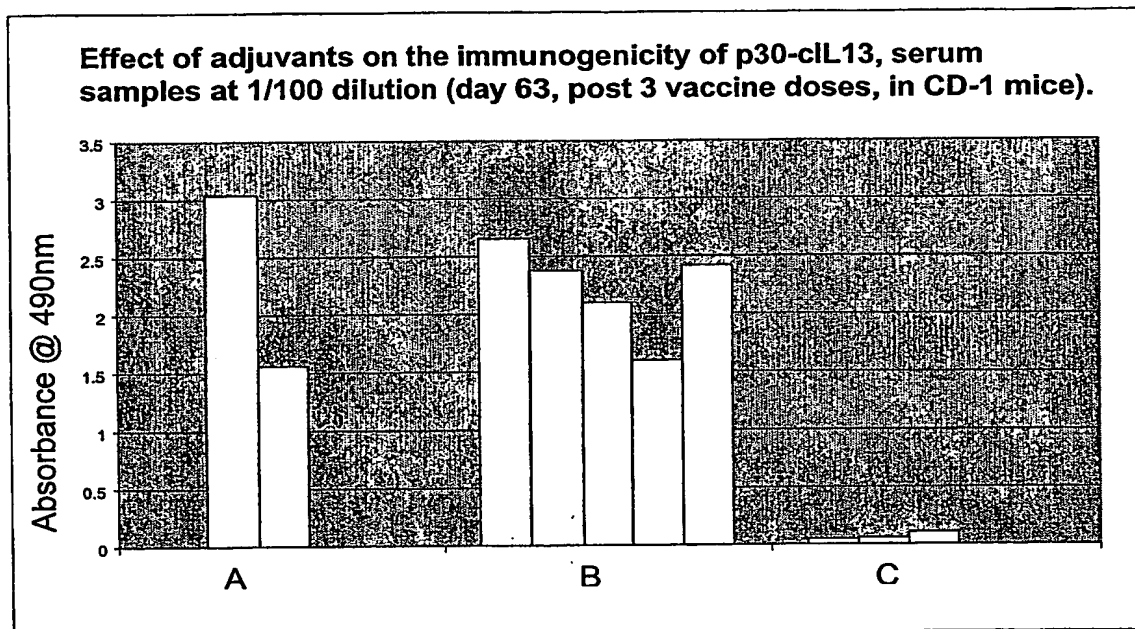
Figure 34,





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Figure 36,



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Figure 37,

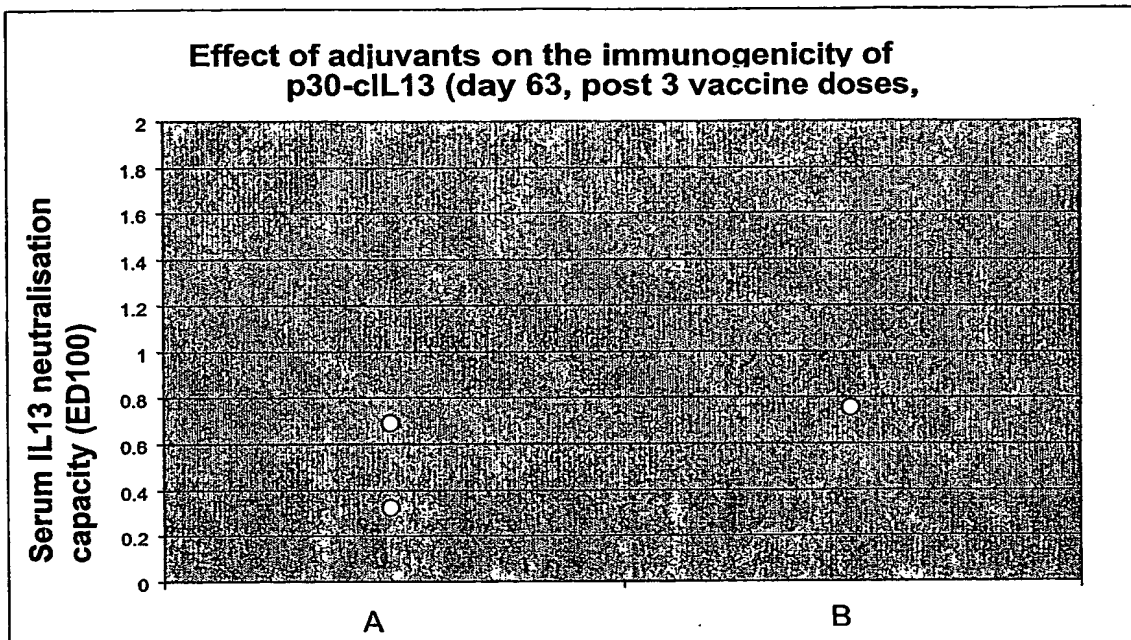


FIG 38, SEQ ID NO. 30

1 GGGCCGGTGCCAAGATCTGTGTCTCTCCCTCTGACCCTTAGGGAGCTCATTGAGGAGCTG 60  
-----+-----+-----+-----+-----+  
G P V P R S V S L P L T L R E L I E E L

61 GTCAACATCACACAAGACCAGACTCCCCTGTGCAACGGCAGCATGGTATGGAGTGTGGAC 120  
-----+-----+-----+-----+-----+  
V N I T Q D Q T P L C N G S M V W S V D

121 CTGGCCGCTGGCGGGTACTGTGCAGCCCTGGAATCCCTGACCAACATCTCCAATTGCAAT 180  
-----+-----+-----+-----+-----+  
L A A G G Y C A A L E S L T N I S N C N

181 GCCATCGAGAAGACCCAGAGGATGCTGGGCGGACTCTGTAACCGCAAGGCCCCCACTACG 240  
-----+-----+-----+-----+-----+  
A I E K T Q R M L G G L C N R K A P T T

241 GTCTCCAGCCTCCCCGATACCAAAATCGAGGTGGCCCAGTTTGTAAGGACCTGCTCAGC 300  
-----+-----+-----+-----+-----+  
V S S L P D T K I E V A Q F V K D L L S

301 TACACAAAGCAACTGTTTCGCCACGGCCCCCTTCTAA 336  
-----+-----+-----+-----+  
Y T K Q L F R H G P F \*